Nanomedicines Alliance Newsletter
October 2011

REGULATORY AND LEGISLATIVE DEVELOPMENTS

NIH Sponsored Team Announces Comprehensive Recommendations for Nanomedicine Guidelines

A team of experts funded by the NIH and headed by Susan Wolf, a law and bioethics expert at the University of Minnesota, has proposed draft recommendations for the oversight of nanomedicine. One of their suggestions is to create two new bodies within HHS, an interagency group that would represent five government branches, and another that would act as an advisory committee and include members of the public. The interagency group would be charged with creating a checklist of questions for agencies that will be evaluating the risks of nanotechnologies. The team hopes to publish their recommendations by the end of the year.

FOCUS: Nanomedicine Organizations

The NIH Common Fund

The NIH Common Fund seeks to determine how cellular machines operate at the nanoscale level and utilize this knowledge to develop new technologies for repairing tissue and preventing or curing disease. The first phase of the program from 2005 to 2010 concentrated on gathering information on the chemical and physical properties of nanoscale biological structures through a network of eight Nanomedicine Development Centers. Currently, the program is in its second phase with four national Nanomedicine Development Centers, and aims to use the knowledge acquired during the first phase to develop treatments for diseases.
http://commonfund.nih.gov/nanomedicine/

Innovative Medicines Initiative (IMI)

IMI, a joint project between the EU and EFPIA, aims to improve the drug development process through more efficient discovery of medicines. It strives to address three different challenges: insufficient investment in R&D, technological complexity, and the lack of a comprehensive research network in Europe. They are currently conducting their 4th call for project proposals, which will end on 18 October 2011.
http://www.imi.europa.eu/

European Technology Platform Nanomedicine (ETP Nanomedicine)

ETP Nanomedicine is an initiative comprised of 53 different European stakeholders, including both academia and industry. The project was put together by the EC and aims to establish a strategic vision for nanomedicines, and encourage joint research and coordination and communication among nanomedicine development efforts in the EU. The three key priority areas identified by the group are 1) nanotechnology-based diagnostics, 2) targeted drug delivery and release, and 3) regenerative medicine.
http://www.etp-nanomedicine.eu/public

European Foundation for Clinical Nanomedicine (CLINAM)
CLINAM is a non-profit organisation that strives to advance prevention, diagnosis, and therapy through nanomedicines. It promotes clinical research and interaction amongst various stakeholders of nanomedicines, such as clinicians, researchers, and the public. Currently, the organisation is working on establishing the International Translational Laboratory for Nanomedicine (INTRALAB-N) in Basel, Switzerland to facilitate innovation through Europe. The project will be in joint cooperation with five European universities.
http://www.clinam.org/

REVIEWS AND OTHER PUBLICATIONS OF INTEREST

1. **Nature Nanotechnology** made several key articles and reviews accessible free of charge through the end of 2011.
   http://www.nature.com/nnano/focus/highlights/index.html?WT.mc_id=NM1110CT010

2. A collection of populirized descriptions of nanotechnology-enabled medical innovations: http://medgadget.com/nanomedicine. In addition, 'five recent breakthroughs' in nanomedicines are posted on the Scientific American blog at http://blogs.scientificamerican.com/guest-blog/2011/09/30/the-smallest-revolution-five-recent-breakthroughs-in-nanomedicine/

3. **Cancer-Targeted Optical Imaging with Fluorescent Zinc Oxide Nanowires.** Nano Letters, 14 September 2011, Hao Hong, Jian Shi, Yunan Yang, Yin Zhang, Jonathan W. Engle, Robert J. Nickles, Xudong Wang, and Weibo Cai.
   http://pubs.acs.org/doi/abs/10.1021/nl201782m

4. **The Use of Myristic Acid as a Ligand of Polyethylenimine/DNA Nanoparticles for Targeted Gene Therapy of Glioblastoma**. Nanotechnology, 28 October 2011, Vol. 22, No. 43. Jin Li, Bing Gu, Qinggang Meng, Zhiqiang Yan, Huile Gao, Xishan Chen, Xiangkun Yang, and Weiyue Lu. http://iopscience.iop.org/0957-4484/22/43/435101

5. **Review: Bioconjugated Quantum Dots as Fluorescent Probes for Biomedical Imaging** Journal of Nanoscience and Nanotechnology, September 2011, Vol. 11, No. 9. Zong-Huan Li, Jun Peng, and Hong-Lei Chen, pp.7521-7536.
   http://www.aspbs.com/jnn/

6. **Review: From Serendipity to Mitochonodria-Targeted Nanocarriers**. Pharmaceutical Research, November 2011, Vol. 28 No. 11. Vokmar Weissig.
   http://www.pharmagateway.net/ArticlePage.aspx?DOI=10.1007/s11095-011-0556-9

7. **Superior Neuroprotective Effects of Cerebrolysin in Heat Stroke Following Chronic Intoxication of Cu or Ag Engineered Nanoparticles. A Comparative**

Study with Other Neuroprotective Agents Using Biochemical and Morphological Approaches in the Rat. Journal of Nanoscience and Nanotechnology, September 2011, Vol. 11, No. 9, pp 7549-7569. Hari Shanker Sharma, Dafin Fior Muresanu, Ranjana Patnaik, Adina Dora Stan, Vitalie Vacaras, Laura Perju-Dumbrava, Badisor Alexandru, Anca Buzoianu, Iulian Opincariu, Preeti Kumaran Menon, and Aruna Sharma. http://www.aspbs.com/jnn/

8. **Nanotechnologies for Alzheimer's Disease: Diagnosis, Therapy, and Safety Issues.** Nanotechnology, Biology, and Medicine, October 2011, Vol. 7, No.5, pp. 521-540. Davide Brambilla, Benjamin Le Droumaquet, Julien Nicolas, S. Hossein Hashemi, Lin-Ping Wu, S. Moein Moghimi, Patrick Couvreur, Karine Andrieux. http://www.nanomedjournal.com/article/S1549-9634(11)00105-5/abstract

CONFERENCES AND WORKSHOPS

International Symposium on Scanning Probe Microscopy & Optical Tweezers in Life Sciences

October 5-6, 2011, Berlin, Germany

- Microscopy for biological systems
- Nanomedicine applications
- Biophotonics and nanotechnology

http://www.nanobioviews.net/spm-optical-tweezers.html

Nanoscale Bioceramics in Healthcare and High Performance Ceramics

October 12-13, 2011, Stoke-on-Trent, Staffordshire, UK

- Hosted by Institute of Nanotechnology and CERAM
- Focus on application of bioactive glass and ceramics to orthopaedics, regenerative medicine, dentistry, biosensing, controlled drug release, high performance coatings, and functionalized biomaterials.

http://www.nano.org.uk/events/ion-events

NanoDDS 2011

October 15-16, 2011, Salt Lake City, UT

- Advanced nanomaterials
- Theranostics
- Drug delivery
- Translational nanomedicine

http://www.nanoinstitute.utah.edu/portal/site/nanoinstitute/menuitem.bd784eb820e465c65b2c5b69c1e916b9/?vgnextoid=f5295a86d2a96210VgnVCM1000001c9e619bRCRD

International Symposium on Bioelectronics and Bioinformatics

November 3-5, 2011, Suzhou, China

- Biomedical engineering
- Nano and micro electronics
- E-health
- Bioinformatics
- Bio-signal processing

http://isbb2011.wmah.org/index.html

NanoMedicine – 2011

November 3 – 5, 2011, Shenzhen, China

- Breaking Research of Nanomedicines
- Versatile Nanotech and Nanomaterials in Biomedicine
- Nanodevices and Diagnostic
- Nanomedicine Targeting Major Diseases
- Regenerative Nanomedicine
- Culturing Public Environment for Healthy Growth

http://www.bitconferences.com/NanoMedicine2011/

Third Annual Conference of the American Society for Nanomedicine

November 9-11, 2011, Rockville, MD

- Novel Nanobiomedical Applications
- Multifunctional Nanoplatforms
- Vision for Nanomedicine Advancement
- Nanomedicine Safety, Characterization and FDA Regulation
- Molecular Imaging in Nanomedicine
- Nanotechnology-based—Targeted Delivery of Therapeutics/Imaging Contrast Agents
- Diagnostics/Treatment: Image-guided Targeted Delivery
- Nanoinformatics: Ontology, nano-TAB, caNanoLab, nanoHUB
- Recent Clinical Applications of Nanomedicine: Diagnosis, Treatment, and Prevention

IEEE International Conference on Nano/Molecular Medicine and Engineering

November 9-12, 2011, Jeju, South Korea

- Nano and molecular technologies in medical diagnosis and therapy
- Nanotechnology in drug delivery
- Biomedical imaging
- Nano and molecular technologies in medical diagnosis and therapy
- Nano-technology in drug delivery
- Biochips and Bio-MEMS
- Biomechatronics
- Biological interface
- Cell at the nanoscale
- Frontiers in nanobiotechnology

BioNanoTox and Applications International Research Conference

November 10-14, 2011, Mobile, AL

- Multidisciplinary focus on biology, nanotechnology, and toxicology
- Joint research between nanomaterials and biological systems

http://sites.google.com/site/bntconference/

International Conference on Biomedical Engineering

December 10-12, 2011, Manipal Karnataka, India

- Medical applications of nanotechnology one of focus areas

http://uic.manipal.edu/icbme/#contact

International Conference on Nanotechnology and Biosensors

December 28-30, 2011, Dubai, UAE

- Aims to foster cross-pollination between nanotechnology and biosensors

http://www.icnb.org/index.htm

Bionanotechnology III: From Biomolecular Assembly to Applications

January 4-6, 2012, Cambridge, UK

- Large natural and designed assemblies
- Single-molecule studies
- Nanomaterials and devices in vitro
- Nanomaterials and devices in vivo
- Biomolecular self-assembly

http://www.biochemistry.org/Conferences/AllConferences/tabid/379/View/Conference/MeetingNo/SA121/Default.aspx

Nano Health

January 15-16, 2012, Egypt, Cairo

- To address the future of nanotechnology, potential risks and regulatory issues
- New frontiers in drug delivery and therapeutics
- New frontiers in imaging and diagnosis
- Nanotechnology and the developing world
- Roadmapping new technologies
- Novel medical materials and products

http://www.clocate.com/conference/Nano-Health-2012/13170

IEEE International Conference on Nano/Micro Engineered and Molecular Systems

March 5-8, 2012, Kyoto, Japan

- Nanophotonics
- Nanomaterials
- Carbon nanotube based devices and systems
- Nanoscale robotics, assembly, and automation
- Molecular sensors, actuators, and systems
- Integration of MEMS/NEMS with molecular sensors/actuators
- Microfluidics and nanofluidics
- Micro and nano heat transfer
- Nanobiology, nano-bio-informatics, nanomedicine
- Micro and nano fabrication
- Micro/nano sensors and actuators
- Micro/nanoelectromechanical systems

http://www.ieee-nems.org/2012/general_info/introduction/

The Joint European Summit for Clinical Nanomedicine 2012 (CLINAM 2012)

May 7-9, 2012, Basel, Switzerland

- Bringing together nanoscience and biomedical/clinical knowledge
- Clinical trials for nanomedicines
- Challenges in regulation, toxicology, ethics, and sustainability
- Transition pathway from research to industrial products
- Strategic instruments in nanomedicines for the next decade

http://www.clinam.org/conference.html

77th Prague Meetings on Macromolecules: Polymers in Medicine

July 8-12, 2012, Prague, Czech Republic

- Polymers for Nanomedicine
- Stimuli responsive polymers
- Polymers for Advanced Drug Delivery
- Polymers for Biomedical Applications
- Biomaterials for Tissue Engineering

http://www.imc.cas.cz/sympo/pmm2012/

European Congress of Molecular Spectroscopy

August 26-31, 2012, Cluj-Napoca, Romania

- Spectroscopic methods and techniques
- Computational and theoretical approaches for the investigation of structure, dynamics, and properties of molecular systems

http://www.nanowerk.com/nanotechnology-event.php?eventid=3484

REFERENCE SECTION

Nano Organizations

- National Center for Toxicological Research (NCTR): http://www.fda.gov/AboutFDA/CentersOffices/NCTR/default.htm
- National Nanotechnology Initiative (NNI): http://www.nano.gov/
- Nano Science and Technology Consortium (NSTC): http://www.nstc.in/
- Nano Science and Technology Institute (NSTI): http://www.nsti.org/
- The Nanotechnology Institute (NTI): http://nanotechinstitute.org/

Nano Journals

- American Chemical Society -- Nano Letters: http://pubs.acs.org/journal/nalefd
- Institute of Physics – Nanotechnology: http://iopscience.iop.org/0957-4484/
- Journal of Nanoscience and Nanotechnology: http://www.aspbs.com/jnn/
- NanoTrends - A Journal of Nanotechnology and its Applications: http://www.nstc.in/journal/default.aspx
- BCC Research -- Nanotechnology Reports: http://www.bccresearch.com/index/category/code/nanotechnology
- Nanomedicine: Nanotechnology, Biology, and Medicine: http://www.nanomedjournal.com/home
- Nanomedicine: http://www.futuremedicine.com/page/about.jsp
- Nature Nanotechnology: http://www.nature.com/nnano/focus/highlights/index.html?WT.mc_id=NM1110CT010

CONTACT

For further information, or if you have any questions about the Nanomedicines Alliance, please contact the Nanomedicines Alliance Secretariat at 1-202-230-5607 or info@nanomedicines-alliance.org

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